

## EMS DAM and Constrained Model Vocabulary Approach

The standard on which the EMS DAM is founded has defined valid value domains for data elements. Elements that will be modeled as coded data types will be bound to vocabularies. The levels and stages at which this happens may vary among elements.

### Process

The Domain Analysis Model will identify concept domains via property definition. It will not map those semantics to recognized HL7 concept domains.

The Domain Message Information Model, or "DMIM" may proceed beyond the value domain. Where the source specification can confirm the constitution of a value set for an element, that set will be modeled and, if possible, bound as outlined below. Where the source specification cannot provide such confirmation, the binding will remain at the concept domain level until either the specification or implementation guide stage.

**Modeling.** Some elements may have value lists that mix concepts. In these cases, a modeling approach must be identified.

- A. The element mixes concepts, and may be decomposed into multiple elements. For example, an element that defines both a patient's condition and the level of service dispatched to treat it might be broken into two elements, one for each concept.
- B. The set seems to mix concepts, but the concept domain has a coherent rationale, and there is no need for the analytic constituent concepts. In example A, the code may turn out to be a billing element with no expectation of detailed semantics, in which case it may remain a single element with a new concept domain defined by the stakeholder.
- C. The additional dimension may be addressed with existing properties of V3 data types or classes (e.g., negation, uncertainty, units).
- D. The element may be postcoordinated.

**Vocabulary Identification & Binding.** Once the modeling is complete, each element can be classified in one of the following categories:

1. Match: A standard terminology system can be identified that professes to cover the concept domain, and all required values are in it.
2. Feasible Match: A standard system can be identified that professes to cover the concept domain, some required values are in it, and there is a workable submission process.
3. Procedural issue: A standard system can be identified that professes to cover the concept domain, some values are in it, but the ability to add concepts to the system is in question.
4. No Match: No standard system can be identified that professes to cover the concept domain

For the categories listed, we will propose the following:

- For categories 1 & 2, use the identified system, requesting additions as necessary. If additions are refused, the element moves from category 2 to category 3.
- For categories 3 & 4,
  - publish the lists as NEMESIS codes and use them,
  - or add them to LOINC,
  - or leave them to be addressed by the realm in implementation guides.